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## Regions Split Over Short-Term TCE Limit, Highlighting Need For EPA Guide

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New guidance from EPA Region X recommending stringent short-term exposure limits for trichloroethylene (TCE) to protect against fetal cardiac malformations takes a different approach than a controversial Region IX proposal, highlighting remediation challenges for regulators and industry in the absence of clear guidance from EPA headquarters.

In a Dec. 13 memorandum, Region X recommends a limit of 8.4 micrograms per cubic meter (ug/m<sup>3</sup>) in indoor air at commercial and industrial sites, and 2.0 ug/m<sup>3</sup> in residences. The limits, described as "not-to-be-exceeded concentrations, as averaged over any 21-day period of time," use a different criteria than Region IX's proposed removal action level (RAL) of 15 ug/m<sup>3</sup>, which assumes a single daily exposure above 15 ug/m<sup>3</sup> for pregnant women could result in fetal cardiac defects. *The Region X memo is available on InsideEPA.com. (Doc ID: [2420299](#))*

The memo from Joyce C. Kelly, director of Region X 's Office of Environmental Assessment, notes that while many questions about TCE's toxicity were resolved with EPA's 2011 update to its Integrated Risk Information System (IRIS) values for TCE, short-term exposure issues continue to need guidance.

"There remains one exposure issue that is not resolved on IRIS regarding TCE, although it is our understanding that [the Office of Solid Waste and Emergency Response (OSWER)] is attempting to formally do so by consulting with [the Office of Research and Development] and other EPA program offices," the memo says. "Because there is a current need to address this exposure issue at numerous . . . waste sites in Region 10, we have decided that it is prudent for this office to make recommendations regarding this exposure, while waiting for OSWER to issue guidance on the matter."

An OSWER official told states in October that headquarters' review of Region IX's RAL is ongoing and considered a matter of urgency, but did not say when the review is likely to be finished.

Since Region IX proposed its RAL and EPA headquarters began its review, several state regulators have said they are awaiting EPA guidance on short-term exposures. Additionally, the California Department of Toxic Substances Control has begun enforcing the Region IX RAL, requiring mitigation when the level is exceeded, as an interim measure until EPA headquarters completes its review (*Superfund Report*, Aug. 24).

The Region X memo specifies that the recommended short-term limit is for when women of reproductive age are present, and contrasts with Region IX by saying it is unclear whether shorter spikes in indoor air contamination during a 21-day period cause birth defects. "The available scientific information does not allow for a determination of whether transient spikes in TCE exposures during a 21-day window of early gestation vulnerability may result in fetal heart malformations, when average media exposure concentrations during that window are not exceeded," according to the memo.

Region X's strict regulation of TCE comes a month after industry officials and representatives of a risk assessment group reviewing EPA's cleanup policy related to TCE urged the agency to drop regulation of short-term exposure to the solvent, arguing in a Nov. 6 meeting with agency officials that EPA's intent to protect against cardiac birth defects is based on flawed science.

Both Region IX and Region X developed their short-term TCE limits based on the IRIS reference concentration (RfC) -- or the greatest amount of a substance EPA anticipates can be inhaled daily over a lifetime without causing adverse health effects -- of 2 ug/m<sup>3</sup>. The RfC includes the risk of cardiac birth defects, and several peer review panels backed EPA's use of a 2003 study by Paula D. Johnson that showed fetal cardiac malformations from TCE exposure.